

PATENT COOPERATION TREATY

PCT

NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Commissioner
 US Department of Commerce
 United States Patent and Trademark
 Office, PCT
 2011 South Clark Place Room
 CP2/5C24
 Arlington, VA 22202
 ETATS-UNIS D'AMERIQUE
 in its capacity as elected Office

Date of mailing (day/month/year) 25 April 2001 (25.04.01)	
International application No. PCT/IN99/00055	Applicant's or agent's file reference IN/PAT 135
International filing date (day/month/year) 14 October 1999 (14.10.99)	Priority date (day/month/year) 26 July 1999 (26.07.99)
Applicant RAJGARHIA, Ashok	

1. The designated Office is hereby notified of its election made:

☒ in the demand filed with the International Preliminary Examining Authority on:
 22 February 2001 (22.02.01)

☐ in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was
☐ was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

The International Bureau of WIPO 34, chemin des Colombettes 1211 Geneva 20, Switzerland	Authorized officer S. Mafla
Facsimile No.: (41-22) 740.14.35	Telephone No.: (41-22) 338.83.38

PATENT COOPERATION TREATY

10/031824

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

To:

ANAND Pravin, KUMAR Shanti,
SHANKER Archana, BHATNAGAR Jaya
Anand & Anand, Advocates
B-41 Nizamuddin East
New Delhi-110 013
India

PCT

WRITTEN OPINION

(PCT Rule 66)

Applicant's or agent's file reference IN/PAT 135		Date of mailing (day/month/year) 11 May 2001 (11.05.2001)	
International application No. PCT/IN 99/00055		REPLY DUE within 2 months/days from the above date of mailing	
International filing date (day/month/year) 14 October 1999 (14.10.1999)	Priority date (day/month/year) 26 July 1999 (26.07.1999)	International Patent Classification (IPC) or both national classification and IPC IPC⁷: A61K 35/78	
Applicant RAJGARHIA ASHOK			

1. This written opinion is the **first** (first, etc.) drawn by this International Preliminary Examining Authority.
2. This opinion contains indications relating to the following items:
 - ☒ Basis of the opinion
 - ☐ Priority
 - ☐ Non-establishment of opinion with regard to novelty, inventive step and industrial applicability
 - ☐ Lack of unity of invention
 - ☒ Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement
 - ☐ Certain documents cited
 - ☐ Certain defects in the international application
 - ☐ Certain observations on the international application
3. The applicant is hereby invited to reply to this opinion.

When? See the time limit indicated above. The applicant may, before the expiration of that time limit, request this Authority to grant an extension, see Rule 66.2(d).

How? By submitting a written reply, accompanied, where appropriate, by amendments, according to Rule 66.3. For the form and the language of the amendments, see Rules 66.8 and 66.9.

Also For an additional opportunity to submit amendments, see Rule 66.4.
For the examiner's obligation to consider amendments and/or arguments, see Rule 66.4bis.
For an informal communication with the examiner, see Rule 66.6.

If no reply is filed, the international preliminary examination report will be established on the basis of this opinion.
4. The final date by which the international preliminary examination report must be established according to Rule 69.2 is: **26 November 2001 (26.11.2001).**

Name and mailing address of the IPEA/AT Austrian Patent Office Kohlmarkt 8-10; A-1014 Vienna	Authorized officer WOLF
Facsimile No. 1/53424/200	Telephone No. 1/53424/436

Form PCT/IPEA/408 (cover sheet) (July 1998)

RECEIVED

15 MAY 2001

ANAND

I. Basis of the opinion**1. With regard to the elements of the international application:***

☒ the international application as originally filed

☐ the description:

pages , as originally filed
pages , filed with the demand
pages , filed with the letter of

☐ the claims:

pages , as originally filed
pages , as amended (together with any statement) under Article 19
pages , filed with the demand
pages , filed with the letter of

☐ the drawings:

pages , as originally filed
pages , filed with the demand
pages , filed with the letter of

☐ the sequence listing part of the description:

pages , as originally filed
pages , filed with the demand
pages , filed with the letter of

2. With regard to the language, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.
These elements were available or furnished to this Authority in the following language _____ which is:

☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).

☐ the language of publication of the international application (under Rule 48.3(b)).

☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any nucleotide and/or amino acid sequence disclosed in the international application, the written opinion was drawn on the basis of the sequence listing:

☐ contained in the international application in printed form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages

☐ the claims, Nos.

☐ the drawings, sheets/fig

5. ☐ This opinion has been drawn as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

** Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this opinion as „originally filed“.*

WRITTEN OPINION

International application No.
PCT/EP 99/00055

V. Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement	Novelty (N)	Claims 3,4	YES
		Claims 1,2	NO
Inventive step (IS)		Claims	YES
		Claims 1-4	NO
Industrial applicability (IA)		Claims 1-4	YES
		Claims	NO

Citations and explanations

The following documents are cited in the international search report:

D1 CN 1 096 211 A
D2 EP 0 880 360 A1
D3 EP 0 687 465 A1

In D1 a pharmaceutical composition comprising Glycyrrhiza glabra (licorice root) and Picrorhiza in the ratio as proposed in claims 1-4 of the present international application is described. Therefore the *product* according to claims 1 and 2 of the application does not meet the requirement of novelty, since a special *use* of a known composition does not justify a product protection.

Claims 3 and 4 of the application merely concern a process for mixing known components in a known ratio. Therefore these claims lack an inventive step.

D2 and D3 concern the farther state of the art.

The industrial applicability of the subject-matters of the present claims is obvious.

The demand must be filed directly with the competent International Preliminary Examining Authority or, if two or more Authorities are competent, with the one chosen by the applicant. The full name or two-letter code of that Authority may be indicated by the applicant on the line below:

IPEA/ AT

1999031854

PCT

CHAPTER II

DEMAND

under Article 31 of the Patent Cooperation Treaty:
The undersigned requests that the international application specified below be the subject of international preliminary examination according to the Patent Cooperation Treaty and hereby elects all eligible States (except where otherwise indicated).

For International Preliminary Examining Authority use only		
Identification of IPEA		Date of receipt of DEMAND
Box No. I IDENTIFICATION OF THE INTERNATIONAL APPLICATION		Applicant's or agent's file reference
International application No. PCT/IN99/00055	International filing date (day/month/year) 14/10/1999	(Earliest) Priority date (day/month/year) 26/07/1999
Title of invention "A Synergistic composition for the treatment of liver and liver associated ailments and a process for preparing the same."		
Box No. II APPLICANT(S)		
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.) RAJGARHIA Ashok C/o Rajgarhia Paper Mills Pvt. Ltd., 15 Exchange Place, Calcutta - 700 001 West Bengal, India		Telephone No.:
		Facsimile No.:
		Teleprinter No.:
State (that is, country) of nationality: IN	State (that is, country) of residence: IN	
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)		
State (that is, country) of nationality:		
State (that is, country) of residence:		
Name and address: (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)		
State (that is, country) of nationality:		
State (that is, country) of residence:		
<input type="checkbox"/> Further applicants are indicated on a continuation sheet.		

Box No. III AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCEThe following person is ☒ agent ☐ common representativeand ☒ has been appointed earlier and represents the applicant(s) also for international preliminary examination.☐ is hereby appointed and any earlier appointment of (an) agent(s)/common representative is hereby revoked.☐ is hereby appointed, specifically for the procedure before the International Preliminary Examining Authority, in addition to the agent(s)/common representative appointed earlier.Name and address: *(Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)*ANAND Pravin; KUMAR, Shanti;
SHANKER Archana; BHATNAGAR Jaya;
ANAND & ANAND Advocates
B-41, Nizamuddin East,
New Delhi - 110 013
India

Telephone No.:

0091-11-464 5076

Facsimile No.:

0091-11 462 4243

Teleprinter No.:

☐ **Address for correspondence:** Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.**Box No. IV BASIS FOR INTERNATIONAL PRELIMINARY EXAMINATION****Statement concerning amendments:***

1. The applicant wishes the international preliminary examination to start on the basis of:

☒ the international application as originally filedthe description ☒ as originally filed
☐ as amended under Article 34the claims ☒ as originally filed
☐ as amended under Article 19 (together with any accompanying statement)
☐ as amended under Article 34the drawings ☐ as originally filed
☐ as amended under Article 342. ☐ The applicant wishes any amendment to the claims under Article 19 to be considered as reversed.3. ☐ The applicant wishes the start of the international preliminary examination to be postponed until the expiration of 20 months from the priority date unless the International Preliminary Examining Authority receives a copy of any amendments made under Article 19 or a notice from the applicant that he does not wish to make such amendments (Rule 69.1(d)). *(This check-box may be marked only where the time limit under Article 19 has not yet expired.)*

* Where no check-box is marked, international preliminary examination will start on the basis of the international application as originally filed or, where a copy of amendments to the claims under Article 19 and/or amendments of the international application under Article 34 are received by the International Preliminary Examining Authority before it has begun to draw up a written opinion or the international preliminary examination report, as so amended.

Language for the purposes of international preliminary examination: ENGLISH☒ which is the language in which the international application was filed.☐ which is the language of a translation furnished for the purposes of international search.☐ which is the language of publication of the international application.☐ which is the language of the translation (to be) furnished for the purposes of international preliminary examination.**Box No. V ELECTION OF STATES**The applicant hereby elects all eligible States *(that is, all States which have been designated and which are bound by Chapter II of the PCT)*

excluding the following States which the applicant wishes not to elect:

Box No. VI CHECK LIST

The demand is accompanied by the following elements, in the language referred to in Box No. IV, for the purposes of international preliminary examination:

- | | | |
|--|---|--------|
| 1. translation of international application | : | sheets |
| 2. amendments under Article 34 | : | sheets |
| 3. copy (or, where required, translation) of amendments under Article 19 | : | sheets |
| 4. copy (or, where required, translation) of statement under Article 19 | : | sheets |
| 5. letter | : | sheets |
| 6. other (<i>specify</i>) | : | sheets |

For International Preliminary
Examining Authority use only

received not received

<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>

The demand is also accompanied by the item(s) marked below:

- | | |
|---|---|
| 1. <input checked="" type="checkbox"/> fee calculation sheet | 4. <input type="checkbox"/> statement explaining lack of signature |
| 2. <input checked="" type="checkbox"/> separate signed power of attorney | 5. <input type="checkbox"/> nucleotide and or amino acid sequence listing in computer readable form |
| 3. <input checked="" type="checkbox"/> copy of general power of attorney; reference number, if any: | 6. <input type="checkbox"/> other (<i>specify</i>): |

Box No. VII SIGNATURE OF APPLICANT, AGENT OR COMMON REPRESENTATIVE

Next to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the demand).

(Archana Shanker)

For International Preliminary Examining Authority use only

1. Date of actual receipt of DEMAND:

2. Adjusted date of receipt of demand due to CORRECTIONS under Rule 60.1(b):

3. ☐ The date of receipt of the demand is AFTER the expiration of 19 months from the priority date and item 4 or 5, below, does not apply. ☐ The applicant has been informed accordingly.

4. ☐ The date of receipt of the demand is WITHIN the period of 19 months from the priority date as extended by virtue of Rule 80.5.

5. ☐ Although the date of receipt of the demand is after the expiration of 19 months from the priority date, the delay in arrival is EXCUSED pursuant to Rule 82.

For International Bureau use only

Demand received from IPEA on:

PCT

CHAPTER II

FEE CALCULATION SHEET

Annex to the Demand for international preliminary examination

<table border="1" style="width: 100%; border-collapse: collapse;"> <tr> <td style="width: 50%;">International application No.</td> <td style="width: 50%;">PCT/IN99/00055</td> </tr> <tr> <td>Applicant's or agent's file reference</td> <td>9409(PCT)</td> </tr> </table>	International application No.	PCT/IN99/00055	Applicant's or agent's file reference	9409(PCT)	<div style="border: 1px solid black; padding: 5px;"> For International Preliminary Examining Authority use only </div> <div style="border: 1px solid black; height: 100px; margin-top: 10px;"> Date stamp of the IPEA </div>
International application No.	PCT/IN99/00055				
Applicant's or agent's file reference	9409(PCT)				
Applicant <div style="text-align: center; font-weight: bold; margin-top: 10px;">RAJGARHIA Ashok</div>					
Calculation of prescribed fees					
1. Preliminary examination fee	<div style="border: 1px solid black; display: inline-block; padding: 2px 10px;">ATS 2200.00</div> <div style="border: 1px solid black; display: inline-block; padding: 2px 5px; margin-left: 5px;">P</div>				
2. Handling fee (<i>Applicants from certain States are entitled to a reduction of 75% of the handling fee. Where the applicant is (or all applicants are) so entitled, the amount to be entered at H is 25% of the handling fee.</i>)	<div style="border: 1px solid black; display: inline-block; padding: 2px 10px;">ATS 2022.76</div> <div style="border: 1px solid black; display: inline-block; padding: 2px 5px; margin-left: 5px;">H</div>				
3. Total of prescribed fees Add the amounts entered at P and H and enter total in the TOTAL box	<div style="border: 1px solid black; display: inline-block; padding: 2px 10px; margin-top: 10px;">ATS 4222.76</div> <div style="border: 1px solid black; display: inline-block; padding: 2px 10px; margin-top: 5px; width: 100%;">TOTAL</div>				
Mode of Payment					
<input type="checkbox"/> authorization to charge deposit account with the IPEA (see below)	<input type="checkbox"/> cash				
<input type="checkbox"/> cheque	<input type="checkbox"/> revenue stamps				
<input type="checkbox"/> postal money order	<input type="checkbox"/> coupons				
<input type="checkbox"/> bank draft	<input type="checkbox"/> other (specify):				
Deposit Account Authorization (<i>this mode of payment may not be available at all IPEAs</i>)					
The IPEA/ _____ <input type="checkbox"/> is hereby authorized to charge the total fees indicated above to my deposit account.					
<input type="checkbox"/> (<i>this check-box may be marked only if the conditions for deposit accounts of the IPEA so permit</i>) is hereby authorized to charge any deficiency or credit any overpayment in the total fees indicated above to my deposit account.					
Deposit Account Number _____	Date (day/month/year) _____				
Signature _____					

PATENT COOPERATION TREATY

(17)

30 DEC 2001

From the
INTERNATIONAL PRELIMINARY EXAMINING AUTHORITY

PCT

NOTIFICATION OF TRANSMITTAL OF INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Rule 71.1)

To:
ANAND Pravin, KUMAR Shanti,
SHANKER Archana, BHATNAGAR Jaya
Anand & Anand, Advocates
B-41 Nizamuddin East
New Delhi-110 013
India

Date of mailing
(day/month/year) 3 December 2001 (03.12.01)

Applicant's or agent's file reference
IN/PAT 135

IMPORTANT NOTIFICATION

International application No.
PCT/ IN 99/00055

International filing date (day/month/year)
14 October 1999 (14.10.99)

Priority Date (day/month/year)
26 July 1999 (26.07.99)

Applicant
RAJGARHIA ASHOK

1. The applicant is hereby notified that this International Preliminary Examining Authority transmits herewith the international preliminary examination report and its annexes, if any, established on the international application.
2. A copy of of the report and its annexes, if any, is being transmitted to the International Bureau for communication to all the elected Offices.
3. Where required by any of the elected Offices, the International Bureau will prepare an English translation of the report (but not of any annexes) and will transmit such translation to those Offices.

4. REMINDER

The applicant must enter the national phase before each elected Office by performing certain acts (filing translations and paying national fees) within 30 months from the priority date (or later in some Offices) (Article 39(1)) (see also the reminder sent by the International Bureau with Form PCT/IB/301).

Where a translation of the international application must be furnished to an elected Office, that translation must contain a translation of any annexes to the international preliminary examination report. It is the applicant's responsibility to prepare and furnish such translation directly to each elected Office concerned.

For further details on the applicable time limits and requirements of the elected Offices, see Volume II of the PCT Applicant's Guide.

Name and mailing address of the IPEA/AT
Austrian Patent Office
Kohlmarkt 8-10
A-1014 Vienna
Facsimile No. 1/53424/200

Authorized officer

Wolf

Telephone No. +43 / 1 / 53424 - 450

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference IN/PAT 135	FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/IN 99/00055	International filing date (<i>day month year</i>) 14 October 1999 (14.10.1999)	Priority Date (<i>day month year</i>) 26 July 1999 (26.07.1999)
International Patent Classification (IPC) or national classification and IPC IPC⁷: A61K 35/78		
Applicant RAJGARHIA ASHOK		

1.	This international preliminary examination report has been prepared by this International Preliminary Examination Authority and is transmitted to the applicant according to Article 36.
2.	This REPORT consists of a total of <u> 3 </u> sheets, including this cover sheet. <input type="checkbox"/> This report is also accompanied by ANNEXES, i.e., sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT). These annexes consist of a total of <u> </u> sheets.
3.	This report contains indications relating to the following items: <ul style="list-style-type: none"> I. <input checked="" type="checkbox"/> Basis of the opinion II. <input type="checkbox"/> Priority III. <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability IV. <input type="checkbox"/> Lack of unity of invention V. <input checked="" type="checkbox"/> Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability: citations and explanations supporting such statement VI. <input type="checkbox"/> Certain documents cited VII. <input type="checkbox"/> Certain defects in the international application VIII. <input type="checkbox"/> Certain observations on the international application

Date of submission of the demand 22 February 2001 (22.02.2001)	Date of completion of this report 12 September 2001 (12.09.2001)
Name and mailing address of the IPEA/AT Austrian Patent Office Kohlmarkt 8-10 A-1014 Vienna Facsimile No. 1/53424/200	Authorized officer <div style="text-align: center; font-weight: bold; font-size: 1.2em;">WOLF</div> Telephone No. 1/53424/436

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/IN 99/00055

1. Basis of the report

1. With regard to the elements of the international application:*

☒ the international application as originally filed

☐ the description:

pages _____ as originally filed

pages _____ filed with the demand

pages _____ filed with the letter of _____

☐ the claims:

pages _____ as originally filed

pages _____ as amended (together with any statement) under Article 19

pages _____ filed with the demand

pages _____ filed with the letter of _____

☐ the drawings:

pages _____ as originally filed

pages _____ filed with the demand

pages _____ filed with the letter of _____

☐ the sequence listing part of the description:

pages _____ as originally filed

pages _____ filed with the demand

pages _____ filed with the letter of _____

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language _____ which is:

☐ the language of a translation furnished for the purposes of international search (under Rule 23.1(b)).

☐ the language of publication of the international application (under Rule 48.3(b)).

☐ the language of the translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

☐ contained in the international application in printed form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages _____

☐ the claims, Nos. _____

☐ the drawings, sheets/fig _____

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(e)).**

* Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17).

** Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/IN 99/00055

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement Novelty (N)	Claims 1-4	YES
	Claims	NO
Inventive step (IS)	Claims 1-4	YES
	Claims	NO
Industrial applicability (IA)	Claims 1-4	YES
	Claims	NO

Citations and explanations (Rule 70.7)

The following documents are cited in the international search report:

D1 CN 1 096 211 A
D2 EP 0 880 360 A1
D3 EP 0 687 465 A1

D1 represents the most relevant state of the art. In this publication a medicinal pill containing *Glycyrrhiza glabra* (licorice root), *Picrorhiza rhizome* and 12 other Chinese traditional medicinal herbs. In claims 1-4 of the present application a composition consisting merely of *Glycyrrhiza glabra* and *Picrorhiza kurroa* in a defined ratio and a process for preparing such composition is disclosed. Since the composition according to the present application only consists of these two components and relates to *Picrorhiza kurroa* whereas the composition according to D1 consists of 14 components and relates to *Picrorhiza rhizome* the subject matters of claims 1-4 of the present application meet the requirement of novelty.

The election of two components in a defined ratio from a composition comprising 14 components does not seem to be obvious for a person skilled in the art. Furthermore, the composition according to D1 is used for improving the symptoms of haemorrhoids, swelling, prolapses and constipation, whereas the composition according to the present application is used for treatment of liver and liver associated ailments. Thus, the subject matters of claims 1-4 also comply with the requirement of inventive step.

The industrial applicability of said subject-matters is self-evident.

As already mentioned in the written opinion D2 and D3 concern the farther state of the art.

PATENT COOPERATION TREATY

(44)

From the INTERNATIONAL SEARCHING AUTHORITY

PCT

To:

ANAND Pravin, KUMAR Shanti,
SHANKER Archana, BHATNAGAR Jaya
Anand & Anand
B-41 Nizamuddin East
New Delhi-110 013
India

NOTIFICATION OF TRANSMITTAL OF THE INTERNATIONAL SEARCH REPORT OR THE DECLARATION

(PCT Rule 44.1)

Applicant's or agent's file reference IN/PAT 135	Date of mailing (day/month/year) 2 August 2000 (02.08.00)
International application No. PCT/IN 99/00055	International filing date (day/month/year) 14 October 1999 (14.10.99)
Applicant RAJGARHIA ASHOK	

1. ☒ The applicant is hereby notified that the international search report has been established and is transmitted herewith.

Filing of amendments and statements under Article 19:

The applicant is entitled, if he so wishes, to amend the claims of the international application (see Rule 46):

When? The time limit for filing such amendments is normally two months from the date of transmittal of the international search report; however, for more details, see the notes on the accompanying sheet.

Where? Directly to the International Bureau of WIPO
34, chemin des Colombettes
1211 Geneva 20, Switzerland
Facsimile No.: (41-22) 740.14.35

For more detailed instructions, see the notes on the accompanying sheet.

2. ☐ The applicant is hereby notified that no international search will be established and that the declaration under Article 17(2)(a) to that effect is transmitted herewith.
3. ☐ With regard to the protest against payment of (an) initial fee(s) under Rule 40.2, the applicant is notified that:
- ☐ the protest together with the decision thereon has been transmitted to the International Bureau together with the applicant's request to forward the text of both the protest decision thereon to the designated Offices
 - ☐ no decision has been made yet on the protest; the applicant will be notified as soon as a decision is made.

4. **Further action(s):** The applicant is reminded of the following:

Shortly after 18 months from the priority date, the international application will be published by the International Bureau. If the applicant wishes to avoid or postpone publication, a notice of withdrawal of the international application, or of the priority claim, must reach the International Bureau as provided in Rules 90bis. 1 and 90bis.3, respectively, before the completion of the technical preparations for international publication.

Within 19 months from the priority date, a demand for international preliminary examination must be filed if the applicant wishes to postpone the entry into the national phase until 30 months from the priority date (in some Offices even later).

Within 20 months from the priority date, the applicant must perform the prescribed acts for entry into the national phase before all designated Offices which have not been elected in the demand or in a later election within 19 months from the priority date or could not be elected because they are not bound by Chapter II.

Name and mailing address of the IPEA/AT
Austrian Patent Office
Kohlmarkt 8-10
A-1014 Vienna
Facsimile No. 1/53424/200

Authorized officer

Koch

Telephone No. +43 / 1 / 53424 - 450

NOTES TO FORM PCT/ISA/220

These Notes are intended to give the basic instructions concerning the filing of amendments under Article 19. The Notes are based on the requirements of the Patent Cooperation Treaty, the Regulations and the Administrative Instructions under that Treaty. In case of discrepancy between these Notes and those requirements, the latter are applicable. For more detailed information, see also the *PCT Applicant's Guide*, a publication of WIPO.

In these Notes, "Article," "Rule" and "Section" refer to the provisions of the PCT, the PCT Regulations and the PCT Administrative Instructions, respectively.

INSTRUCTIONS CONCERNING AMENDMENTS UNDER ARTICLE 19

The applicant has, after having received the international search report, one opportunity to amend the claims of the international application. It should however be emphasized that, since all parts of the international application (claims, description and drawings) may be amended during the international preliminary examination procedure, there is usually no need to file amendments of the claims under Article 19 except where, e.g. the applicant wants the latter to be published for the purposes of provisional protection or has another reason for amending the claims before international publication. Furthermore, it should be emphasized that provisional protection is available in some States only.

What parts of the international application may be amended ?

Under Article 19, only the claims may be amended.

During the international phase, the claims may also be amended (or further amended) under Article 34 before the International Preliminary Examining Authority. The description and drawings may only be amended under Article 34 before the International Preliminary Examining Authority.

Upon entry into the national phase, all parts of the international application may be amended under Article 28 or, where applicable, Article 41.

When ? Within 2 months from the date of transmittal of the international search report or 16 months from the priority date, whichever time limit expires later. It should be noted, however, that the amendments will be considered as having been received on time if they are received by the International Bureau after the expiration of the applicable time limit but before the completion of the technical preparations for international publication (Rule 46.1).

Where not to file the amendments ?

The amendments may only be filed with the International Bureau and not with the receiving Office or the International Searching Authority (Rule 46.2).

Where a demand for international preliminary examination has been/is filed, see below.

How ? Either by cancelling one or more entire claims, by adding one or more new claims or by amending the text of one or more of the claims as filed.

A replacement sheet must be submitted for each sheet of the claims which, on account of an amendment or amendments, differs from the sheet originally filed.

All the claims appearing on a replacement sheet must be numbered in Arabic numerals. Where a claim is cancelled, no renumbering of the other claims is required. In all cases where claims are renumbered, they must be renumbered consecutively (Administrative Instructions, Section 205(b)).

The amendments must be made in the language in which the international application is to be published.

What documents must/may accompany the amendments ?

Letter (Section 205(b)):

The amendments must be submitted with a letter.

The letter will not be published with the international application and the amended claims. It should not be confused with the "Statement under Article 19(1)" (see below, under "Statement under Article 19(1)").

The letter must be in English or French, at the choice of the applicant. However, if the language of the international application is English, the letter must be in English; if the language of the international application is French, the letter must be in French.

NOTES TO FORM PCT/ISA/220 (continued)

The letter must indicate the differences between the claims as filed and the claims as amended. It must, in particular, indicate, in connection with each claim appearing in the international application (it being understood that identical indications concerning several claims may be grouped), whether

- (i) the claim is unchanged;
- (ii) the claim is cancelled;
- (iii) the claim is new;
- (iv) the claim replaces one or more claims as filed;
- (v) the claim is the result of the division of a claim as filed.

The following examples illustrate the manner in which amendments must be explained in the accompanying letter:

1. [Where originally there were 48 claims and after amendment of some claims there are 51]:
"Claims 1 to 29, 31, 32, 34, 35, 37 to 48 replaced by amended claims bearing the same numbers; claims 30, 33 and 36 unchanged; new claims 49 to 51 added."
2. [Where originally there were 15 claims and after amendment of all claims there are 11]:
"Claims 1 to 15 replaced by amended claims 1 to 11."
3. [Where originally there were 14 claims and the amendments consist in cancelling some claims and in adding new claims]:
"Claims 1 to 6 and 14 unchanged; claims 7 to 13 cancelled; new claims 15, 16 and 17 added." or
"Claims 7 to 13 cancelled; new claims 15, 16 and 17 added; all other claims unchanged."
4. [Where various kinds of amendments are made]:
"Claims 1-10 unchanged; claims 11 to 13, 18 and 19 cancelled; claims 14, 15 and 16 replaced by amended claim 14; claim 17 subdivided into amended claims 15, 16 and 17; new claims 20 and 21 added."

"Statement under Article 19(1)" (Rule 46.4)

The amendments may be accompanied by a statement explaining the amendments and indicating any impact that such amendments might have on the description and the drawings (which cannot be amended under Article 19(1)).

The statement will be published with the international application and the amended claims.

It must be in the language in which the international application is to be published.

It must be brief, not exceeding 500 words if in English or if translated into English.

It should not be confused with and does not replace the letter indicating the differences between the claims as filed and as amended. It must be filed on a separate sheet and must be identified as such by a heading, preferably by using the words "Statement under Article 19(1)."

It may not contain any disparaging comments on the international search report or the relevance of citations contained in that report. Reference to citations, relevant to a given claim, contained in the international search report may be made only in connection with an amendment of that claim.

Consequence if a demand for international preliminary examination has already been filed

If, at the time of filing any amendments and any accompanying statement, under Article 19, a demand for international preliminary examination has already been submitted, the applicant must preferably, at the time of filing the amendments (and any statement) with the International Bureau, also file with the International Preliminary Examining Authority a copy of such amendments (and of any statement) and, where required, a translation of such amendments for the procedure before that Authority (see Rules 55.3(a) and 62.2, first sentence). For further information, see the Notes to the demand form (PCT/IPEA/401).

Consequence with regard to translation of the international application for entry into the national phase

The applicant's attention is drawn to the fact that, upon entry into the national phase, a translation of the claims as amended under Article 19 may have to be furnished to the designated/elected Offices, instead of, or in addition to, the translation of the claims as filed.

For further details on the requirements of each designated/elected Office, see the *PCT Applicant's Guide*, Volume II.

10/031854

PCT

REQUEST

The undersigned requests that the present international application be processed according to the Patent Cooperation Treaty.

For receiving Office use only

International Application No.

International Filing Date

Name of receiving Office and "PCT International Application"

Applicant's or agent's file reference
(if desired) (12 characters maximum) IN/PAT 135

Box No. I TITLE OF INVENTION

A SYNERGISTIC COMPOSITION FOR THE TREATMENT OF LIVER AND LIVER ASSOCIATED AILMENTS AND PROCESS OF PREPARING THE SAME.

Box No. II APPLICANT

Name and address. (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

RAJGARHIA ASHOK
C/o Rajgarhia Paper Mills Pvt. Ltd.,
15 Exchange Place,
Calcutta - 700001
India

☒ This person is also inventor.

Telephone No.

Facsimile No.

Teleprinter No.

State (that is, country) of nationality:

IN

State (that is, country) of residence:

IN

This person is applicant for the purposes of:

☐ all designated States☒ all designated States except the United States of America☐ the United States of America only☐ the States indicated in the Supplemental Box

Box No. III FURTHER APPLICANT(S) AND/OR (FURTHER) INVENTOR(S)

Name and address. (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country. The country of the address indicated in this Box is the applicant's State (that is, country) of residence if no State of residence is indicated below.)

This person is:

☐ applicant only☐ applicant and inventor☐ inventor only (If this check-box is marked, do not fill in below.)

State (that is, country) of nationality:

State (that is, country) of residence:

This person is applicant for the purposes of:

☐ all designated States☐ all designated States except the United States of America☐ the United States of America only☐ the States indicated in the Supplemental Box☐ Further applicants and/or (further) inventors are indicated on a continuation sheet.

Box No. IV AGENT OR COMMON REPRESENTATIVE; OR ADDRESS FOR CORRESPONDENCE

The person identified below is hereby/has been appointed to act on behalf of the applicant(s) before the competent International Authorities as:

☐ agent☐ common representative

Name and address. (Family name followed by given name; for a legal entity, full official designation. The address must include postal code and name of country.)

ANAND, Pravin; KUMAR Shanti;
SHANKER, Archana; BHATNAGAR, Jaya
ANAND & ANAND Advocates
B-41, Nizamuddin East
New Delhi - 110 013
India

Telephone No.

(11) 464-5076

Facsimile No.

(11) 462-4243

Teleprinter No.

☐ Address for correspondence: Mark this check-box where no agent or common representative is/has been appointed and the space above is used instead to indicate a special address to which correspondence should be sent.

Box No. VI PRIORITY CLAIM		<input type="checkbox"/> Further priority claims are indicated in the Supplemental Box.		
Filing date of earlier application (day/month/year)	Number of earlier application	Where earlier application is:		
		national application: country	regional application:* regional Office	international application: receiving Office
item (1) 26th July, 1999 (26.07.1999)	660/Ca1/99	INDIA		
item (2) 26th July, 1999 (26.07.1999)	661/Ca1/99	INDIA		
item (3)				
<input type="checkbox"/> The receiving Office is requested to prepare and transmit to the International Bureau a certified copy of the earlier application(s) (only if the earlier application was filed with the Office which for the purposes of the present international application is the receiving Office) identified above as item(s):				
<small>* where the earlier application is an ARIPO application, it is mandatory to indicate in the Supplemental Box at least one country party to the Paris Convention for the Protection of Industrial Property for which that earlier application was filed (Rule 4.10(b)(iii)). See Supplemental Box.</small>				
Box No. VII INTERNATIONAL SEARCHING AUTHORITY				
Choice of International Searching Authority (ISA) If two or more International Searching Authorities are competent to carry out the international search, indicate the Authority chosen; the two-letter code may be used:		Request to use results of earlier search; reference to that search (if an earlier search has been carried out by or requested from the International Searching Authority):		
ISA / AT		Date (day/month/year) Number Country (or regional Office)		
Box No. VIII CHECK LIST; LANGUAGE OF FILING				
This international application contains the following number of sheets: request : 3 description (excluding sequence listing part) : 6 claims : 1 abstract : 1 drawings : sequence listing part of description : Total number of sheets : 11		This international application is accompanied by the item(s) marked below: 1. <input checked="" type="checkbox"/> fee calculation sheet 2. <input checked="" type="checkbox"/> separate signed power of attorney 3. <input type="checkbox"/> copy of general power of attorney, reference number, if any: 4. <input type="checkbox"/> statement explaining lack of signature 5. <input type="checkbox"/> priority document(s) identified in Box No. VI as item(s): 6. <input type="checkbox"/> translation of international application into (language): 7. <input type="checkbox"/> separate indications concerning deposited microorganism or other biological material 8. <input type="checkbox"/> nucleotide and/or amino acid sequence listing in computer readable form 9. <input type="checkbox"/> other (specify):		
Figure of the drawings which should accompany the abstract:		Language of filing of the international application: English		
Box No. IX SIGNATURE OF APPLICANT OR AGENT				
Need to each signature, indicate the name of the person signing and the capacity in which the person signs (if such capacity is not obvious from reading the request).				
(Shanti Kumar)				

For receiving Office use only	
1. Date of actual receipt of the purported international application:	2. Drawings: <input type="checkbox"/> received: <input type="checkbox"/> not received:
3. Corrected date of actual receipt due to later but timely received papers or drawings completing the purported international application:	
4. Date of timely receipt of the required corrections under PCT Article 11(2):	
5. International Searching Authority (if two or more are competent): ISA /	6. <input type="checkbox"/> Transmittal of search copy delayed until search fee is paid.

For International Bureau use only
Date of receipt of the record copy by the International Bureau:

Box No.V DESIGNATION OF STATES

The following designations are hereby made under Rule 4.9(a) (mark the applicable check-boxes; at least one must be marked):

Regional Patent

- ☒ AP ARIPO Patent: GH Ghana, GM Gambia, KE Kenya, LS Lesotho, MW Malawi, SD Sudan, SZ Swaziland, UG Uganda, ZW Zimbabwe, and any other State which is a Contracting State of the Harare Protocol and of the PCT
- ☒ EA Eurasian Patent: AM Armenia, AZ Azerbaijan, BY Belarus, KG Kyrgyzstan, KZ Kazakhstan, MD Republic of Moldova, RU Russian Federation, TJ Tajikistan, TM Turkmenistan, and any other State which is a Contracting State of the Eurasian Patent Convention and of the PCT
- ☒ EP European Patent: AT Austria, BE Belgium, CH and LI Switzerland and Liechtenstein, CY Cyprus, DE Germany, DK Denmark, ES Spain, FI Finland, FR France, GB United Kingdom, GR Greece, IE Ireland, IT Italy, LU Luxembourg, MC Monaco, NL Netherlands, PT Portugal, SE Sweden, and any other State which is a Contracting State of the European Patent Convention and of the PCT
- ☒ OA OAPI Patent: BF Burkina Faso, BJ Benin, CF Central African Republic, CG Congo, CI Côte d'Ivoire, CM Cameroon, GA Gabon, GN Guinea, GW Guinea-Bissau, ML Mali, MR Mauritania, NE Niger, SN Senegal, TD Chad, TG Togo, and any other State which is a member State of OAPI and a Contracting State of the PCT (if other kind of protection or treatment desired, specify on dotted line):

National Patent (if other kind of protection or treatment desired, specify on dotted line):

- | | |
|--|--|
| <input checked="" type="checkbox"/> AL Albania | <input checked="" type="checkbox"/> LS Lesotho |
| <input checked="" type="checkbox"/> AM Armenia | <input checked="" type="checkbox"/> LT Lithuania |
| <input checked="" type="checkbox"/> AT Austria | <input checked="" type="checkbox"/> LU Luxembourg |
| <input checked="" type="checkbox"/> AU Australia | <input checked="" type="checkbox"/> LV Latvia |
| <input checked="" type="checkbox"/> AZ Azerbaijan | <input checked="" type="checkbox"/> MD Republic of Moldova |
| <input checked="" type="checkbox"/> BA Bosnia and Herzegovina | <input checked="" type="checkbox"/> MG Madagascar |
| <input checked="" type="checkbox"/> BB Barbados | <input checked="" type="checkbox"/> MK The former Yugoslav Republic of Macedonia |
| <input checked="" type="checkbox"/> BG Bulgaria | |
| <input checked="" type="checkbox"/> BR Brazil | <input checked="" type="checkbox"/> MN Mongolia |
| <input checked="" type="checkbox"/> BY Belarus | <input checked="" type="checkbox"/> MW Malawi |
| <input checked="" type="checkbox"/> CA Canada | <input checked="" type="checkbox"/> MX Mexico |
| <input checked="" type="checkbox"/> CH and LI Switzerland and Liechtenstein | <input checked="" type="checkbox"/> NO Norway |
| <input checked="" type="checkbox"/> CN China | <input checked="" type="checkbox"/> NZ New Zealand |
| <input checked="" type="checkbox"/> CU Cuba | <input checked="" type="checkbox"/> PL Poland |
| <input checked="" type="checkbox"/> CZ Czech Republic | <input checked="" type="checkbox"/> PT Portugal |
| <input checked="" type="checkbox"/> DE Germany | <input checked="" type="checkbox"/> RO Romania |
| <input checked="" type="checkbox"/> DK Denmark | <input checked="" type="checkbox"/> RU Russian Federation |
| <input checked="" type="checkbox"/> EE Estonia | <input checked="" type="checkbox"/> SD Sudan |
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| <input checked="" type="checkbox"/> GB United Kingdom | <input checked="" type="checkbox"/> SI Slovenia |
| <input checked="" type="checkbox"/> GD Grenada | <input checked="" type="checkbox"/> SK Slovakia |
| <input checked="" type="checkbox"/> GE Georgia | <input checked="" type="checkbox"/> SL Sierra Leone |
| <input checked="" type="checkbox"/> GH Ghana | <input checked="" type="checkbox"/> TJ Tajikistan |
| <input checked="" type="checkbox"/> GM Gambia | <input checked="" type="checkbox"/> TM Turkmenistan |
| <input checked="" type="checkbox"/> HR Croatia | <input checked="" type="checkbox"/> TR Turkey |
| <input checked="" type="checkbox"/> HU Hungary | <input checked="" type="checkbox"/> TT Trinidad and Tobago |
| <input checked="" type="checkbox"/> ID Indonesia | <input checked="" type="checkbox"/> UA Ukraine |
| <input checked="" type="checkbox"/> IL Israel | <input checked="" type="checkbox"/> UG Uganda |
| <input type="checkbox"/> IN India | <input checked="" type="checkbox"/> US United States of America |
| <input checked="" type="checkbox"/> IS Iceland | |
| <input checked="" type="checkbox"/> JP Japan | <input checked="" type="checkbox"/> UZ Uzbekistan |
| <input checked="" type="checkbox"/> KE Kenya | <input checked="" type="checkbox"/> VN Viet Nam |
| <input checked="" type="checkbox"/> KG Kyrgyzstan | <input checked="" type="checkbox"/> YU Yugoslavia |
| <input checked="" type="checkbox"/> KP Democratic People's Republic of Korea | <input checked="" type="checkbox"/> ZW Zimbabwe |
| | |
| <input checked="" type="checkbox"/> KR Republic of Korea | Check-boxes reserved for designating States (for the purposes of a national patent) which have become party to the PCT after issuance of this sheet: |
| <input checked="" type="checkbox"/> KZ Kazakhstan | <input checked="" type="checkbox"/> AE United Arab Emirates |
| <input checked="" type="checkbox"/> LC Saint Lucia | <input checked="" type="checkbox"/> ZA South Africa |
| <input checked="" type="checkbox"/> LK Sri Lanka | |
| <input checked="" type="checkbox"/> LR Liberia | <input type="checkbox"/> |

Precautionary Designation Statement: In addition to the designations made above, the applicant also makes under Rule 4.9(b) all other designations which would be permitted under the PCT except any designation(s) indicated in the Supplemental Box as being excluded from the scope of this statement. The applicant declares that those additional designations are subject to confirmation and that any designation which is not confirmed before the expiration of 15 months from the priority date is to be regarded as withdrawn by the applicant at the expiration of that time limit. (Confirmation of a designation consists of the filing of a notice specifying that designation and the payment of the designation and confirmation fees. Confirmation must reach the receiving Office within the 15-month time limit.)

This sheet is not part of and does not count as a sheet of the International application.

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FEE CALCULATION SHEET
Annex to the Request

For receiving Office use only

International application No.

Applicant's or agent's
file reference

IN/PAT 135

Date stamp of the receiving Office

Applicant

RAJGARHIA ASHOK

CALCULATION OF PRESCRIBED FEES

TRANSMITTAL FEE Rs. 1500.0 T

2. SEARCH FEE USD 180.0 S

International search to be carried out by AT
(If two or more International Searching Authorities are competent in relation to the international application, indicate the name of the Authority which is chosen to carry out the international search.)

3. INTERNATIONAL FEE

Basic Fee

The international application contains 8 sheets.

first 30 sheets USD 455.0 b1

remaining sheets x additional amount = b2

Add amounts entered at b1 and b2 and enter total at B USD 455.0 B

Designation Fees

The international application contains 78 designations.

10 x 105 = USD 1050.0 D

number of designation fees payable (maximum 10) amount of designation fee

Add amounts entered at B and D and enter total at I USD 377.0 I

(Applicants from certain States are entitled to a reduction of 75% of the international fee. Where the applicant is (or all applicants are) so entitled, the total to be entered at I is 25% of the sum of the amounts entered at B and D.)

4. FEE FOR PRIORITY DOCUMENT (if applicable) P

5. TOTAL FEES PAYABLE INR 1500.0 +

Add amounts entered at T, S, I and P, and enter total in the TOTAL box
USD 557.0
TOTAL

☒ The designation fees are not paid at this time.

MODE OF PAYMENT

☐ authorization to charge
deposit account (see below)

☒ cheque

☐ postal money order

☐ bank draft

☐ cash

☐ revenue stamps

☐ coupons

☐ other (specify):

DEPOSIT ACCOUNT AUTHORIZATION (this mode of payment may not be available at all receiving Offices)

The RO/ ☐ is hereby authorized to charge the total fees indicated above to my deposit account.

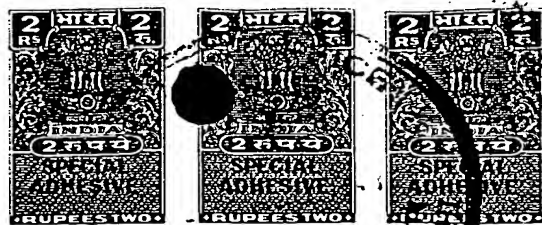
☐ (this check-box may be marked only if the conditions for deposit accounts of the receiving Office so permit) is hereby authorized to charge any deficiency or credit any overpayment in the total fees indicated above to my deposit account.

☐ is hereby authorized to charge the fee for preparation and transmittal of the priority document to the International Bureau of WIPO to my deposit account.

Deposit Account No.

Date (day/month/year)

Signature



The Patents Act, 1970

Form of authorization of a Patent Agent / or Any person in a matter or proceeding under the Act Section 127/132

I/We

Ashok Rajgarhia, C/o Rajgarhia Paper Mills Pvt. Ltd., 15 Exchange Place, Calcutta - 700001, India, an Indian National.

hereby authorize N.K. Anand, Pravin Anand, Safir Anand, Shanti Kumar, Debjit Gupta, Binny Kalra, Archana Shanker, Sai Krishna and Jaya Bhatnagar Advocates of ANAND & ANAND Advocates, B-41, Nizamuddin East, New Delhi - 110 013 (India) to act on my/our behalf in connection with


"A synergistic composition for the treatment of liver and liver associated ailments and process of preparing the same."

and request that all notices, requisitions and communications relating thereto may be sent to such agent/s at the above address.

I/We hereby revoke all previous authorizations, if any, made in respect of the same matter or proceeding.

I/We hereby assent to the action already taken by the said person in the above matter.

Dated this 8th day of October, 1999


Applicant

To
The Controller of Patents
The Patent Office
New Delhi / Calcutta

(19) World Intellectual Property Organization
International Bureau



(43) International Publication Date
1 February 2001 (01.02.2001)

PCT

(10) International Publication Number
WO 01/07062 A1

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- (21) International Application Number: PCT/IN99/00055
- (22) International Filing Date: 14 October 1999 (14.10.1999)
- (25) Filing Language: English
- (26) Publication Language: English
- (30) Priority Data:
660/CAL/99 26 July 1999 (26.07.1999) IN
661/CAL/99 26 July 1999 (26.07.1999) IN
- (71) Applicant and
(72) Inventor: RAJGARHIA, Ashok [IN/IN]; Rajgarhia Paper Mills Pvt. Ltd., 15 Exchange Place, Calcutta 700 001 (IN).
- (74) Agents: ANAND, Pravin et al.; Anand & Anand Advocates, B-41, Nizamuddin East, New Delhi 110 013 (IN).
- (81) Designated States (*national*): AE, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, CA, CH, CN, CR, CU, CZ, DE, DK, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, UA, UG, US, UZ, VN, YU, ZA, ZW.
- (84) Designated States (*regional*): ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European patent (AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).
- Published:
— With international search report.
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.



WO 01/07062 A1

(54) Title: A SYNERGISTIC COMPOSITION FOR THE TREATMENT OF LIVER AND LIVER ASSOCIATED AILMENTS AND A PROCESS FOR PREPARING THE SAME

(57) Abstract: This invention relates to a synergistic composition for the treatment of liver and liver associated ailments and a process for preparing the same. The synergistic composition comprises the extract of *Glycyrrhiza glabra* and *Picrorhiza kurroa* in ratio 2-1:1-3 by weight. The process for preparing the composition comprises of the following steps: preparation of extract from the roots of *Glycyrrhiza glabra* and *Picrorhiza kurroa*, optimization of the extract of *Glycyrrhiza glabra* to ensure the maximum content of glycyrrhizin, optimization of the extract of *Picrorhiza kurroa* to ensure maximum content of Kutkin, mixing the two extracts obtained in ratio 2-1:1-3 at ambient temperature and pressure to obtain the composition.

“ A SYNERGISTIC COMPOSITION FOR THE TREATMENT OF LIVER AND LIVER ASSOCIATED AILMENTS AND A PROCESS FOR PREPARING THE SAME ”

The present invention relates to a synergistic composition for the treatment of liver and liver associated ailments and a process for preparing the same.

Background

Liver is an important organ in the human body and is responsible for its well being. It helps in detoxifying many exogenous toxic substances present within the human body, which are consumed as drugs or with food. These toxic wastes reduce the efficiency of the liver as a blood purifier. Liver also undergoes frequent attacks by viral infections such as hepatitis.

India has the second largest pool of HBV carriers in the world. It has a population of over 45 million HBV carriers and 15 million HCV carriers. One fourth of these are at risk to suffer from chronic liver diseases and its lethal complications, such as cirrhosis or even liver carcinoma. Coupled with the burden of HBV related liver diseases, there is an ever increasing patient load due to Hepatitis C. Screening of all the blood before use for HIV, is still a distant reality and this contributes to a significant increase in chronic liver diseases in India.

Therefore it has become absolutely essential to develop an effective therapeutic strategy to tackle this problem.

In allopathy, at present no specific drug is available for providing adequate cover for protection of or preventing liver from various infections and diseases. In Ayurveda, many plant extracts are known, which have a hepatoprotective effect. However, the effect of such crude plant extracts as used in Ayurveda is slow by virtue of presence of

other components which may prevent full action of the active ingredient/component.

One of the plant extracts used as medicine for treatment of liver diseases is the root extract of plant *Glycyrrhiza glabra* (liquorice).

Said extract contains flavonoids, saponins, oligo-glycosides, phenolic compounds and glycyrrhizic acid. *Glycyrrhiza glabra* is known to have four actions which help in treatment and prevention of liver diseases (Sub acute liver failure, cirrhosis liver with activity)

Cyto-protective action - This helps in fortifying the cell, which enables the cell to protect itself from virus / infection.

Anti-inflammatory and Immunomodulatory action - This helps in reducing the inflammation of the organ and help modulate the organ to function normally. It also has cholerectic action.

Anti-oxidant action - Helps in preventing replication of virus.

Anti-viral action - The combined effect of the above helps in preventing replication of virus, thus there is reduction of viral load over a period of continued administration of the drug.

The activity of the extract of *Glycyrrhiza glabra* is also due to the action of beta glycyrrhizinic acid at the level of complement component C2.

However, liquorice extract when taken in large quantities for prolonged periods, causes high blood pressure (hypertension), water retention, weight gain due to pseudoaldosteronism and possibly heart complications.

Extract of roots of *Picrorrhiza Kurroa* have also been recommended as a hepatoprotective agent for protection of liver toxicity caused by hepatotoxic agents such as alcohol, carbon tetra chloride, viruses and parasites. Roots of *Picrorrhiza kurroa* contain glycosides, kutkin

(kutkosides and picrosides) and other organic acids such as vallanic and cinnamic acids.

5 The extract of Picrorrhiza roots is bitter and it increases gastric secretion, diminishes the force of heartbeat and reduces the blood pressure.

10 Therefore there was a need to develop a synergistic composition having a pleasant flavour which would have hepatoprotective action, against the virus and at the same time enhance the protective action against hepatotoxic agents such as those in food, drug and alcohol.

15 The object of the present invention was therefore to provide for a synergistic composition having enhanced hepatoprotective action with reduced side effects.

20 Yet another object of the present invention is to provide for a composition having hepatoprotective effect against both viruses and hepatotoxic agents.

The aforesaid object is achieved by the present invention, which relates to a synergistic composition for the treatment of liver and liver associated ailments comprising:

25 extract of Glycyrrhiza glabra and Picrorrhiza kurroa in ratio 2-1:1-3 by weight.

The said composition may be mixed with excipients for tableting.

30 The present invention also provides a process for preparing a synergistic composition for the treatment of liver and liver associated ailments comprising:

35 - preparation of extract from the roots of Glycyrrhizia Glabra and Picrorrhiza kurroa,

- optimization of the extract of *Glycyrrhiza glabra* to ensure the maximum content of glycyrrhizin.
- optimization of the extract of *Picrorhiza kurroa* to ensure maximum content of Kutkin.
- mixing the two extracts obtained in ratio 2-1:1-3 at ambient temperature and pressure to obtain the composition.

The extract of *Glycyrrhiza glabra* is mixed with extract of *Picrorhiza kurroa* preferably in the ratio 1.25 : 2.

The extracts of *Glycyrrhiza glabra* and *Picrorhiza kurroa* may be prepared in any known manner.

The extract of *Glycyrrhiza Glabra* may also be prepared after treating the powdered roots with a non polar solvent in the proportion of 1:5 by volume for removing unwanted components such as saponins, pigments and lipids in the supernatant. The residue obtained is mixed in 3-5 times volume of hot water at 60-90° C and constantly stirred for 3-5 hours. This water mixture is acidified and the residue extracted and dried in such a way that optimum concentration of Glycyrrhizin is obtained. The extract is standardized on TLC plates to obtain a definite number of components in each batch of the extract.

The extract of *Picrorhiza kurroa* may also be obtained after treatment of the dried powdered roots of the plants with petroleum ether in the proportion 1:3 by volume. The residue extracted with alcohol (60%) and left in cold water to remove / reduce the content of undesired components and concentrated to dryness to get optimized extract of *Picrorhiza kurroa*. The extract can be standardized by TLC to get same constituents in each batch of extract.

The composition of the herbal extracts in the present drug will enhance the hepatoprotective activity and at the same time reduce harmful side effects.

Method of Optimization

Optimization of Liquorice extract:

5 Glycyrrhizin content in liquorice root ranges from 3-6%. A standard curve is plotted of different UV readings taken from the after carrying out TLC test on of different conc. of pure Glycyrrhizin. The extract obtained from liquorice are put on TLC and the concentration of Glycyrrhizin in the extract is measured on UV and quantified with the
10 help of the standard curve plotted above.

Optimization of Picrorhiza kurroa extract:

15 Similar procedure is carried out for optimizing the extract of Picrorhiza kurroa extract. Optimization is done to a stage of 40-70% content of Glycyrrhizin / Kutkin in the extracts.

The present invention will now be described with reference to foregoing examples:

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Example 1:

The extract of Glycyrrhiza glabra is optimized at 50% Glycyrrhizin content. The extract of Picrorhiza kurroa is optimized at
25 40% kutkin content. 100mg of Glycyrrhiza glabra extract is mixed with 20mg of Picrorhiza Kurroa extract to prepare the composition. Excipients are added to make a tablet form.

Example 2:

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The extract of Glycyrrhiza glabra is optimized at 60% Glycyrrhizin content. The extract of Picrorhiza kurroa is optimized at
35 40% kutkin content. 84mg of Glycyrrhiza glabra extract is mixed with 31.5 of Picrorhiza Kurroa extract to prepare the composition. Excipients are added to make a tablet form.

DOSAGE:

Adult	- -	2 Tablets Three times / day
Child	-	1 Tablet three times / day

Claims:

1. A synergistic composition for the treatment of liver and liver associated ailments characterized by:
extract of Glycyrrhiza glabra and Picrorhiza kurroa in ratio 2-1:1-3 by weight.
2. A composition as claimed in claim 1 characterized in that the extract of Glycyrrhiza glabra is mixed with extract of Picrorhiza kurroa in the ratio of 1.25 : 2.
3. A process for preparing a synergistic composition as claimed in claim 1 characterized by :
 - preparation of extract from the roots of Glycyrrhizia Glabra and Picrorhiza kurroa.
 - optimization of the extract of Glycyrrhiza glabra to ensure the maximum content of glycyrrhizin.
 - optimization of the extract of Picrorhiza kurroa to ensure maximum content of Kutkin.
 - mixing the two extracts obtained in ratio 2-1:1-3 at ambient temperature and pressure to obtain the composition.
4. A process as claimed in claim 3 wherein characterized in that the extract of Glycyrrhiza glabra is mixed with extract of Picrorhiza kurroa in the ration 1.25 : 2.

INTERNATIONAL SEARCH REPORT

International application No.
PCT/IN 99/00055

CLASSIFICATION OF SUBJECT MATTER

IPC⁷: A 61 K 35/78

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC⁷: A 61 K 35/78

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practicable, search terms used)

WPI, EPODOC

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	CN 1096211 A (TRADITIONAL CHINESE MEDICAL INST. TAIYUAN) 14 December 1994 (14.12.94) (abstract).[online] [retrieved on 04.06.00]. Retrieved from: EPOQUE Database.	1-4
A	EP 0880360 A1 (DABUR RESEARCH FOUNDATION) 13 January 1999 (13.01.99) abstract.	1
A	EP 0687465 A1 (ALBRECHT et al.) 20 December 1995 (20.12.95) abstract.	1

☐ Further documents are listed in the continuation of Box C.☒ See patent family annex.

* Special categories of cited documents:

„A“ document defining the general state of the art which is not considered to be of particular relevance

„E“ earlier application or patent but published on or after the international filing date

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„T“ later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention

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„Y“ document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art

„&“ document member of the same patent family

Date of the actual completion of the international search

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INTERNATIONAL SEARCH REPORT

Information on patent family members

International application No.

PCT/IN 99/00055

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CN	A	1096211	14-12-1994	none			
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				CA	AA	2244110	14-08-1997
				WO	A1	9728818	14-08-1997
				GB	A0	9614548	04-09-1996
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				AU	A1	62211/98	08-09-1998
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				WO	A2	9835984	20-08-1998
				WO	A3	9835984	07-01-1999